

ENVIRONMENTAL Fact Sheet



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2003

Large Surface Water Treatment Plants in New Hampshire

This fact sheet provides a convenient reference for identifying larger drinking water treatment plants in New Hampshire and their treatment methods.

Most of these facilities treat surface water (i.e. water from lakes or rivers). There are substantial regulations that govern the operation of these plants under the U.S. Environmental Protection Agency's Safe Drinking Water Act and the so called surface water rules, Env-Ws 381. A summary of plants and processes is given on the last page of this document.

These plants must be operated by a certified persons. The typical certification level is either grade 3 or 4 (highest). Many of these plants will provide tours. Tours are often schedules in early May during the celebration of National Drinking Water week.

FOR MORE INFORMATION

For more information call the DES Water Supply Engineering Bureau at 271-3139. For an overall listing of water supply related fact sheets, please request fact sheet [WD-WSEB-15-2](#). We would appreciate your suggestions concerning this fact sheet. Drinking water fact sheets are available through the DES web site at: www.des.nh.gov/wseb then select: [fact sheets](#). Please check the DES internet site annually for updates to this document 11/03.

Town EPA ID	Water System	Senior Personnel	Population	Capacity	Plant Treatment Processes
Andover 0881010	Andover Village Prec. Box 147 Andover, NH 03216	Kurt Meier, Op. 735-6865 x 230	700	0.20	<u>Surface Water:</u> <u>Kinetico Plant</u> Sodium hypochlorite, sodium hydroxide, pressure filtration, waste to infiltration lagoon.
Barrington 0151010	Swains Lake District PO Box 429	Stan Swier, Supt 664-2581	200	0.01	<u>Surface Water:</u> <u>Kinetico Plant</u> Ultraviolet

	Barrington, NH 03825				disinfection, tablet chlorinator, coarse media pressure filtration w/ limestone layer, fine pressure filtration, waste to infiltration injection.
Bartlett 0161010	Bartlett Vill Prec. Box 67 Bartlett, NH 03812	Scott Hayes, Op. O:383-4083	(w)625/(s)1500		<u>Surface Water;</u> <u>Slow Sand Plant</u> Slow sand filter: sodium hypochlorite, hand cleaned, waste to landfill.
Berlin 0231010	Berlin Water Works 55 Willow St. Berlin, NH 03570	Roland Viens, Supt. Paul Roy, Op. O:752-1677 P:752-2143	10,000	4 mgd	Ammonusuc River; Microfloc Plant PC-605, nonionic polymer, sodium hypochlorite, multi media gravity filter, sodium hydroxide, orthophosphate, waste to sewer.
	Berlin	Same	Same	Off Line 2 mgd	Androscoggin River; Conventional Plant (Inactive) .
Bethlehem 0241010	Bethlehem Vill Dist. General Delivery Bethlehem, NH 03574	Terry Welch, Op. O:869-3440	1500	.05 mgd	<u>Surface Water;</u> <u>Slow Sand Plant</u> Slow sand filter, sodium hypochlorite, sodium hydroxide, hand cleaned, waste to landfill.
Brentwood 0284010	Rockingham Cty Home 116 North Rd	Tom Shulte,Op Pt:679-5335	1000	0.4 mgd	<u>Groundwater:</u> <u>Fe/Mn &CO₂ Removal,</u>

	Brentwood, NH 03833				<u>Softening</u> Potassium permanganate; green sand pressure filter; cation exchange (sodium chloride); aeration (Lowery), sodium hypochlorite, soda ash, waste to sewer.
Cannan 0351010	Cannan Water Dept. Town Offices Canaan, NH 03741	Joseph Damour, Cont. O:523-4501 WSO:428-3525	600	0.1 mgd	Surface Water: Slow Sand Plant Sodium hydroxide, slow sand filter, sodium hypochlorite, hand cleaned, waste to landfill.
Claremont 0461010	Claremont Water & S. City Hall Claremont, NH 03743	Tom Burnham, Op. O:542-7020 P:542-6531	10,000	4 mgd	Surface Water: Conventional Plant Poly aluminum hexachlorate, rapid mix, gravity filtration, sedimentation, ABW gravity filters, granular activated carbon, sodium hypochlorite, sodium hydroxide, polyphosphate, waste to sewer.
Concord 0501010	Concord Water Res. Hall Street Concord, NH 03301	Chip Chesley Op. O:225-8691 P:225-8696	30,000	10 mgd	Surface Water: Conventional Plant Alum, sodium hypochlorite, rapid mix, sedimentation, mixed media gravity filtration, sodium hypochlorite, sodium fluoride,

					sodium hydroxide, carbon dioxide, ammonium sulfate, waste to sewer.
Dover 0651010	Dover Water Dept. City Hall Dover, NH 03820	Rick Flowler, Op. 0:742-1921 P:742-8600	23,000	1.0 mgd 1.0 mgd	<u>Groundwater Fe/Mn Removal</u> Lowell Road: Sodium hydroxide, potassium permanganate, pressure sand filter, waste to sewer. <u>Groundwater: VOC, Fe/Mn :</u> PHR Plant: Sodium hydroxide, potassium permanganate, pressure sand filter, aeration, waste to infiltration lagoon.
Durham 0691010	Durham Water Works University of NH Water Treatment Pt Durham, NH 03824	Brad Larrabee Op. O:862-1232 (seasonal) P:862-1390	10,000 /4,000	1.5 mgd	Surface Water: Conventional Plant Poly aluminum chloride (PCH 180), rapid mix, potassium permanganate, sedimentation, Ciba (magnafloc LT 225), gravity multi media filtration, sodium hypochlorite, sodium fluoride, sodium hydroxide, waste to lagoon with recycle.
Exeter 0801010	Exeter Water Dept.	Vicki Abby , Supt. Tony Calderone, Op.	10,000	3.4 mgd	Surface Water: Conventional Plant

	Town Office Exeter, NH 03833	O:773-6169 x 132			Poly aluminum chloride, powdered activated carbon, sodium hydroxide, potassium permanganate, polymer betz 1160, roughing filter, multi media filtration w/ surface wash, sodium hypochlorite, zinc orthophosphate, waste to sewer.
Goffstown 0911010	Goffstown Vill, Prec. 17 Church St Goffstown, NH 03045	Lee Minnich O:497-3621	3,000	0.6 mgd	Surface water: Kinetic Plant Calcium carbonate, pressure filtration, sodium hypochlorite, waste to lagoon with NDPES discharge.
Gorham 0911010	Gorham Water Dept. Town Office Gorham, NH 03581	David Patry, Op. O:466-3302 P:466-3105	3,700	1.0 mgd	<u>Surface Water;</u> <u>Slow Sand Plant</u> Sodium hypochlorite, slow sand (Filter beds are backwashable), waste to lagoons.
Greenville 0991010	Greenville Water Plant PO Box 151 Greenville, NH 03048	Carla Mary, Op. O: 878-2048 P:878-1338	1,300	0.4 mgd	Surface Water: Conventional Plant Sodium hydroxide, alum, sodium aluminate sedimentation, sodium hydroxide, ABW gravity filter, waste to infiltration lagoon.
Haverhill (Woodsville) 1101040	Woodsville Water & Lt. 4900 Dart.	Robert Fagnant Bill Harris O:747-2442	2,800	1.0 mgd	<u>Surface Water;</u> <u>Microfloc Plant</u> Poly aluminum

	Coll. Highway Woodsville, NH 03785	P:747-8115			chloride (Stern pac), polyacrylamide surflow M300, (sodium bicarbonate, seasonally) powdered activated carbon, sedimentation, gravity filtration, sodium hypochlorite, Calgon C9, sodium hydroxide, waste to sewer.
Hillsboro	Hillsboro Water Dept. Box 7, School St. Hillsboro, NH 03244	Joe Damour , Contract O:428-3525	2,000		<u>Surface Water:</u> <u>Slow Sand</u> Sodium hypochlorite, potassium hydroxide, slow sand filter, hand cleaned, waste to landfill.
Hopkinton 1191010	Contoocook Vill. Prec. PO Box 414 Contoocook, NH 03229	Steve Clough, Supt O:746-3389	1,300	0.2 mgd	<u>Surface Water:</u> <u>Kinetic Plant</u> Calcium carbonate, pressure filtration, sodium hypochlorite, waste to infiltration lagoons.
Jackson 1211010	Jackson Water Precinct PO Box 151 Jackson, NH 03846	Scott Hayes, Op. O:383-4083	500	0.35 mgd	Surface Water: Kinetic Plant River bank infiltration intake, polymer, course pressure filtration, fine pressure filtration, air spage cleaning, sodium hypochlorite, calcium carbonate,

					waste to lagoon with NDPES discharge, sodium bisulfate.
Keene 1241010	Keene Water Dept. Main Street Keene, NH 03431	, Op. O:352-6550 P:357-8483	25,000	6.0 mgd	<u>Surface Water:</u> <u>Microfloc Plant</u> Cationic polymer, static mixer, sodium hypochlorite, soda bicarbonate, sodium hydroxide, waste to recycle and sewer. Chlorine dioxide trial.
Laconia 1281010	Laconia Water Works Box 6146 Laconia, NH 03247	Roger Matthewman , Op. O:524-0901 P:524-1096	22,100	6.0 mgd	<u>Surface Water:</u> <u>Microfloc Plant</u> Alum, sodium hypochlorite, sedimentation, gravity mixed bed filtration, sodium fluoride, sodium hypochlorite, zinc orthophosphate, waste to recycle.
Lancaster	Lancaster Water Dept. 25 Main St. Lancaster, NH 03584	Tim Bilodeau O:788-3391 P: 788-2824	2,000		<u>Surface Water:</u> <u>Slow Sand Plant</u> River bank infiltration intake, slow sand filter, sodium hypochlorite, sodium fluoride.
Lebanon 1321010	Lebanon Water Works City Hall Lebanon, NH 03766	Kevin Kingston,Op. O: 448-3112 P: 448-2514	9,000	4.0 mgd	<u>Surface Water:</u> <u>Conventional</u> <u>Plant</u> Poly aluminum chloride, rapid mix, sedimentation, gravity multimedia filtration, sodium

					hypochlorite, soda ash, sodium fluoride, waste to infiltration lagoon.
Lincoln 1351010	Lincoln Water Dept. Main Street Lincoln, NH 03251	William Willey O:745-6250	10,000 /2,000 Seasonal	1.0 mgd	<u>Surface Water:</u> <u>Microfloc Plant</u> Alum, cation polymer (Nalco 8105), upflow clarifier, sodium hypochlorite, sodium bicarbonate, sodium hydroxide, waste to sewer.
Littleton 1381010	Littleton Water & Light 65 Lafayette Street Littleton, NH 03561	Tom Considine O: 444-2915	6,000	1.5 mgd	Surface Water: Slow Sand Plant Slow sand filter, sodium hypochlorite, sodium bicarbonate.
Manchester 1471010	Manchester Water Dept. 281 Lincoln St. Manchester, NH 03103	Thomas Bowen David Paris, Op. O:624-6494 P:624-6482	125,000	40 mgd	Surface Water: Conventional Plant: <u>Current Plant:</u> Poly aluminum chloride/alum, rapid mix, sedimentation, ABW gravity filtration, ABW gravity granular activated carbon, zinc orthophosphate, sodium hypochlorite, sodium hydrofluorosilicic acid, sodium hydroxide, waste to lagoon w/ recycle. Under construction 2005:

					Additions/changes include: Ozone using LOX; sodium bisulfite destruct; GAC/ anthracite filtration, soda ash, chloramines.
					Also, an activated carbon fluidized bed regeneration furnace onsite
Meredith 1511010	Meredith Water Dept. Box 709 Meredith, NH 03253	Robert Hill, Supt. O:279:4538 P:279-3046	2,500	1.0 mgd	<u>Surface Water;</u> <u>Microfloc Plant</u> Alum, upflow clarifier, mixed media filter, sodium hypochlorite, sodium hydroxide, aquamag phosphate, waste to sewer.
Nashua 1611010	Pennichuck Water Co. 4 Water St. Nashua, NH 03061	Steve Densberger Chris Countie O:882-5191 P:882-	80,000	20 mgd	<u>Surface Water;</u> <u>Dregmont/Pulsator</u> Lime, ferric chloride, General Chem F60600PWG nonionic polymer, rapid mix, upflow pulsator clarifier, gravity media filtration, blended phosphate (seaquest), sodium hypochlorite, lime, waste to sewer and recycle.
New Hampton 1691010	New Hampton Prec. Box 331 New Hampton, NH 03256	Gene Otis Joel Powers P:744-2134	700		<u>Surface Water;</u> <u>Kinetico Plant;</u> Sodium hypochlorite, filtration, waste to infiltration lagoon.

Newmarket 1731010	Newmarket Water Dept. Town Hall Newmarket, NH 03857	Ed Mekus O:659-3093 P:659-8811	3,300	1.0 mgd	<u>Surface Water:</u> <u>Conventional</u> <u>Plant</u> Alum, sodium aluminate, powdered activated carbon, potassium permanganate, (aluminium chlorhydrate seasonally), upflow clarifier, polymer filter aid, gravity multi media filtration, sodium hypochlorite, waste to sewer.
Newport 1741010	Newport Water Dept 15 Sunapee St. Newport, NH 03773	Bob Naylor 0:863-4271 P:863-4271		0.7 mgd	<u>Surface Water:</u> <u>Slow Sand Plant</u> ; Slow sand filter, sodium hypochlorite, sodium silicate, waste harrowed to lagoon with NDPES discharge.
Pittsfield 1911010	Pittsfield Aqueduct Co. PO Box 186 Pittsfield, NH 03263	Chris Countie O: 882-5191	1,500	0.25mgd	<u>Surface Water:</u> <u>Microfloc Plant</u> Alum, soda ash, General Chem P64010PWG noionic , soda ash, filtration, sodium hypochlorite, zinc orthophosphate, waste to infiltration lagoon.
Portsmouth 1951010	Portsmouth Water Dept. 680 Perverly Hill Road Portsmouth,	Thomas Cravens Contract Operations O:436-076- P:431-6007	37,000	5.0 mgd	<u>Surface Water:</u> <u>Conventional</u> <u>Plant</u> Poly aluminum chloride, sodium

	NH 03801				hydroxide, (powdered activated carbon- seasonally), rapid mix, coag/floc sedimentation, sodium hypochlorite, gravity rapid sand filtration, sodium hypochlorite, sodium hydroxide, orthophosphate- calciquest, hydrofluorosilicic acid, waste to lagoon with recycling.
Portsmouth 1951020	Pease Trade Port 601 Spaulding Tpke Portsmouth, NH 03801	(See Portsmouth) Contract Operations O:427-2836	500	1.0 mgd	<u>Ground Water:</u> <u>Gravel Wells</u> Inoperative VOC treatment plant. Proposed upgrade to address nitrate contamination. Existing treatment calcium hypochlorite pellet feeder, hydrofluorosilicic acid, calciquest.
Rochester 2001010	Rochester Water Dept. City Hall Rochester, NH 03867	Mary Beth Wiser, Op. 0: 335-4290 P: 335-4291	20,000	5.0 mgd	Surface Water: Conventional Plant; Alum, sodium hydroxide, rapid mix, flog/coag sedimentation, sodium hypochlorite, ABW gravity filtration, ABW activation carbon adsorption, sodium hypochlorite, hydrofluorosilicic acid, sodium hydroxide, waste

					to pressure sewer.
Salem 2051010	Salem Water Dept. 21 Cross St. Salem, NH 03079	Bill Daly O: P: 890-2179	16,500	6.0 mgd	<u>Surface Water:</u> <u>Microfloc Plant</u> Alum or poly aluminum chloride, polymers, contact clarifiers, dual media gravity filtration, sodium hypochlorite, zinc orthophosphate, sodium hydroxide, waste to recycle to sewer.
Somersworth 2151010	Somersworth Water Dept 157 Main St. Somersworth, NH 03878	John Jackman Ronald Gagnon, Op. O:692-4262 P:692-2268	11,000	3.0 mgd	Surface Water: Microfloc Plant; Potassium permanganate, Nalco 8105-cation charge, alum seasonally, powdered activated carbon, polydyne pw3 poly8- cation charge, upflow clarifier, multimedia, gravity filtration, sodium hypochlorite, sodium hydroxide, waste to recyle and sewer.
Sunapee 2271010	Sunapee Water / Sewer Box 347 Sunapee, NH 03782	Dave Brennan 763-2115	2,000	0.5 mgd 0.2 mgd	Sunapee: <u>Surface Water;</u> <u>Slow Sand Plant</u> Sodium hypochlorite, RS-5 phosphate blend,

					slow sand filter, waste to mulch.
					Georges Mills: <u>Groundwater:</u> <u>Bedrock wells</u> aeration, sodium hypochlorite, C-5 zinc orthophosphate
Westmoreland 2494010	Maplewood Home 201 River Rd, Westmoreland, NH 03467	Op.Rob Riendeau O: 399-4912 ex. 362	400 R/ 400 E	0.1 mgd	<u>Surface Water:</u> <u>Microfloc Plant</u> Cyclone separator, strainer, sodium hydroxide, culligan alum, static mixer, pressure course pressure filter, fine pressure filter, granular activated carbon, sodium hypochlorite, waste to sewer.
Wolfeboro 2561010	Wolfeboro Water Dept. PO Box 772 Wolfeboro, NH 03894	Brian Carroll O:569-8176 P:569:2450	5,000(w) 6,500(s)	2.0 mgd	<u>Surface Water;</u> <u>Microfloc Plant</u> Alum, soda ash, sodium hypochlorite, upflow clarifier, multimedia filter including activated carbon, soda ash, sodium hypochlorite, waste to infiltration lagoon.

Summary of NH Treatment Plant Types

Microfloc
 Berlin
 (H.) Woodsville
 Keene
 Laconia
 Lincoln
 Meredith

**Potassium
Permanganate**
 Dover
 Durham
 Exeter
 Newmarket
 Somersworth

Pittsfield	
Salem	Softening
Somersworth	Brentwood
Westmoreland	
Wolfeboro	
	Fluoridation
	Chemicals
	Concord
	Durham
	Hanover
	Laconia
	Lancaster
	Lebanon
	Manchester
	Portsmouth
	(Port) Pease Trade
	Rochester
	River Bank Intake
	Jackson
	Lancaster
	NDPES Lagoon
	Waste
	Jackson
	Newport
	Pellet Chlorinator
	(Port.) Pease Trade
	Slow Sand
	Bartlett
	Bethlehem
	Canaan
	Gorham
	Hillsboro
	Lancaster
	Littleton
	Newport
	Sunapee